

IUBMB Enzyme Nomenclature

EC 3.4.21.73

Common name: u-plasminogen activator

Reaction: Specific cleavage of Arg⁺Val bond in plasminogen to form plasmin

Other names: urokinase; urinary plasminogen activator; cellular plasminogen activator; urokinase-type plasminogen activator; double-chain urokinase-type plasminogen activator; two-chain urokinase-type plasminogen activator; urokinase plasminogen activator; uPA; u-PA; abbokinase; urinary esterase A

Comments: Formed from the inactive precursor by action of plasmin or plasma kallikrein. Differs in structure from t-plasminogen activator (EC 3.4.21.68), and does not bind to fibrin. In peptidase family S1 (trypsin family). Formerly included in EC 3.4.21.31 and EC 3.4.99.26

Links to other databases: [BRENDA](#), [EXPASY](#), [MEROPS](#), CAS registry number: 9039-53-6

References

1. Lottenberg, R., Christiansen, U., Jackson, C.M. and Coleman, P.L. Assay of coagulation proteases using peptide chromogenic and fluorogenic substrates. *Methods Enzymol.* 80 (1981) 341-361. [Medline UI: [82194865](#)]
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3. Saksela, O. and Rifkin, D.B. Cell-associated plasminogen activation: regulation and physiological functions. *Annu. Rev. Cell Biol.* 4 (1988) 93-126. [Medline UI: [89062024](#)]
4. Collen, D., Lijnen, H.R. and Verstraete, M. The fibrinolytic system and its disorders. In *Blood: Principles and Practice of Hematology*, 2nd edn (Handin, R.I., Lux, S.E. and Stossel, J.P., eds), J.B.Lippincott Company, Philadelphia (1990)
5. Lijnen, H.R., Van Hoef, B., Nelles, L. and Collen, D. Plasminogen activation with single-chain urokinase-type plasminogen activator (scu-PA). Studies with active site mutagenized plasminogen (Ser⁷⁴⁰→Ala) and plasmin-resistant scu-PA (Lys¹⁵⁸→Glu). *J. Biol. Chem.* 265 (1990) 5232-5236. [Medline UI: [90203013](#)]

[EC 3.4.21.73 created 1972 as EC 3.4.99.26, transferred 1978 as EC 3.4.21.31, part transferred 1992 to EC 3.4.21.73]

[Return to EC 3.4.21 home page](#)

[Return to EC 3.4 home page](#)

[Return to EC 3 home page](#)

[Return to Enzymes home page](#)

[Return to IUBMB Biochemical Nomenclature home page](#)